
**Metallic materials — Brinell
hardness test —**

**Part 2:
Verification and calibration of testing
machines**

Matériaux métalliques — Essai de dureté Brinell —

Partie 2: Vérification et étalonnage des machines d'essai





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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 164, *Mechanical testing of metals*, Subcommittee SC 3, *Hardness testing*.

This fourth edition cancels and replaces the third edition (ISO 6506-2:2014), which has been technically revised.

The main changes compared to the previous edition are as follows:

- [Clause 3](#) has been added;
- [Table 3](#) has been modified.

A list of all parts in the ISO 6506 series can be found on the ISO website.

Metallic materials — Brinell hardness test —

Part 2:

Verification and calibration of testing machines

1 Scope

This document specifies methods of direct and indirect verification of testing machines used for determining Brinell hardness in accordance with ISO 6506-1 and also specifies when these two types of verification have to be performed.

The direct verification involves checking that individual machine performance parameters fall within specified limits whereas the indirect verification utilizes hardness measurements of reference blocks, calibrated in accordance with ISO 6506-3, to check the machine's overall performance.

If a testing machine is also to be used for other methods of hardness testing, it has to be verified independently for each method.

This document is applicable to both fixed location and portable hardness testing machines. For machines that are incapable of satisfying the specified force-time profile, the direct verification of force and testing cycle can be modified by the use of [Annex B](#).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 376, *Metallic materials — Calibration of force-proving instruments used for the verification of uniaxial testing machines*

ISO 6506-1:2014, *Metallic materials — Brinell hardness test — Part 1: Test method*

ISO 6506-3, *Metallic materials — Brinell hardness test — Part 3: Calibration of reference blocks*

ISO 6507-1, *Metallic materials — Vickers hardness test — Part 1: Test method*

3 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp>

4 General conditions

Before a Brinell hardness testing machine is verified, the machine shall be checked to ensure that it is properly set up in accordance with the manufacturer's instructions.